# **MAINTENANCE COURSE**

# **FOR**

3KW, TACTICAL QUIET GENERATOR SET MEP 831A (60 HZ) AND MEP 832A (400 HZ)

#### MAINTENANCE TRAINING COURSE TRANSPARANCIES - PM-MEP - 3KW MCTR

#### 1-1-2 COURSE OBJECTIVE

UPON SUCCESSFUL COMPLETION OF THIS COURSE, THE TRAINEE WILL HAVE SUFFICIENT KNOWLEDGE TO OPERATE AND PERFORM UNIT AND DIRECT SUPPORT MAINTENANCE ON THE 3KW TACTICAL QUIET GENERATOR SET AND DIESEL ENGINE.

THE TRAINEE WILL BE ABLE TO:

IDENTIFY AND DESCRIBE GENERATOR SET SYSTEM AND COMPONENTS

DESCRIBE THE FUNCTION AND LOCATION OF ELECTRIC, FUEL, OIL, AND COOLING SYSTEM COMPONENTS

PERFORM PMCS PROCEDURES ON THE GENERATOR SET

PERFORM STARTUP AND SHUTDOWN OF THE GENERATOR SET IN USUAL AND UNUSUAL CONDITIONS

PERFORM UNIT AND DIRECT SUPPORT LEVEL TROUBLESHOOTING OF THE GENERATOR SET AND DIESEL ENGINE

PERFORM CORRECTIVE MAINTENANCE OF THE GENERATOR SET AND DIESEL ENGINE AT THE UNIT AND DIRECT SUPPORT LEVELS

## **GENERATOR SET DESCRIPTION**



Size Features

## **BASIC COMPONENTS**



Skid Base Enclosure Engine

Permanent Magnet Generator Control Box Assembly Output Terminals

#### **GENERATOR SET STARTING SYSTEM**

24 VDC BATTERY BT1 BATTERY CHARGING REGULATOR A-9

EMERGENCY STOP SWITCH S-19

DC CONTROL CIRCUIT BREAKER CB-1

START/RUN/STOP SWITCH S-1

STARTER CUTOUT RELAY K-15

ENGINE START CONTACTOR K-2

ENGINE RECOIL STARTER

ENGINE STARTER SOLENOID L-4

ENGINE STARTER MOTOR B-1

### **FUEL SYSTEM**

Fuel Level Float Switch
FL-1, FL-2A/B

Fuel Transfer Pump
E-2

Auxiliary Fuel Switch
S-17

Fuel Filter/Water
Separator

Auxiliary Fuel Pump
E-1

Fuel injection Pump

Fuel Injector

Fuel Return Lines

## **GENERATOR SET COOLING SYSTEM**

AC Cooling Fans 60 Hz B-2/3

DC Cooling Fans 400 Hz B-2/3

Engine Flywheel Fan

## **ENGINE LUBRICATION SYSTEM**

Crankshaft Driven Oil Pump
Crankcase Oil Sump
Oil Filter System
on their system
Low Oil Pressure Switch OP
High Temperature Switch HT

## AIR INTAKE AND EXHAUST SYSTEM

Air Cleaner Assembly

Exhaust Tube

Engine Pre-Heat System Switch S-18

Engine Pre-Heat Contactor K-13

Air Heaters H-1/2

### **GOVERNOR CONTROL SYSTEM**

Power Converter
A-8

Voltage Adjust Rheostat
R-1

Governor Control
A-5

Governor Actuator
A-6

### AC ELECTRICAL SYSTEM

Permanent Magnet Generator G-1 Power Converter A-8 Starter Lockout Relay Kilowatt Meter K-15 M-1 AC Circuit Interrupter Switch S-5 Voltage Adjust Rheostat Volt Meter R-1 M-1 AC Circuit Interrupter K-1 Load Terminal TB-2

#### 1-2-10

#### **DC ELECTRICAL SYSTEM**

24 VDC Battery BT1

Battery Charging Regulator A-9

Start/Run/Stop Switch S-1

Protective Devices:

High Temperature Switch HT

Low Oil Pressure switch OP

Fault Lockout Relay K-12

Over Voltage Relay K-3

Short Circuit Relay K-6

Overload Short Circuit Relay K-8

Ground Fault Circuit Interrupter CB3